James Robert Vyvyan, Jr.

Spring 2019

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Education:

Ph.D.	University of Minnesota	1995
B.S. (ACS cert.)	University of Wisconsin-Eau Claire	1991

Experience:

2006 – present	Professor of Chemistry Western Washington University, Bellingham, WA *Teaching specialty*: organic chemistry, NMR spectroscopy *Research interests*: synthetic methods, natural product synthesis
2013 – 2016	Chair, Department of Chemistry Western Washington University
2008 – present	Member, Advanced Materials Science and Engineering Center Western Washington University
2003-2006	Associate Professor of Chemistry Western Washington University
1997-2003	Assistant Professor of Chemistry Western Washington University
1995-1997	Camille and Henry Dreyfus Postdoctoral Fellow, Hope College, Holland MI *Advisor*: Stephen K. Taylor
1991-1995	Graduate assistant, University of Minnesota *Advisor*: Professor Thomas R. Hoye *Thesis*: Applications of the Fischer Carbene Polycyclic Cyclopropanation Reaction in Natural Product Synthesis: (±)-Carabrone, (±)-Pentalenene, and (±)-Thujopsene
1991 (summer)	Technician, 3M Company, St. Paul, MN *Supervisor*: Steven M. Heilmann
1988-1991	Undergraduate research at the University of Wisconsin-Eau Claire *Advisor*: Professor Leo A. Ochrymowycz
1989-90 (summers)	Technician, S. C. Johnson & Son, Racine, WI *Supervisor*: D. Sunil Jayasuriya

Awards and Honors:

WWU Arlan D. Norman Mentoring Award	2018
UW-Eau Claire President's Award	2014
WWU Paul J. Olscamp Research Award	2011
WWU Peter J. Elich Excellence in Teaching Award	2008
Invited speaker, 34th NSF Workshop on Organic Synthesis and Natural Products Chemistry	2004
Henry Dreyfus Teacher-Scholar Award	2003
Faculty Travel Award, ACS Division of Organic Chemistry	1999, 2003
National Science Foundation Faculty Early Career Development (CAREER) Award	2001-2006
Project Development Award, WWU Bureau for Faculty Research	1999-2000
Cottrell Scholar of the Research Corporation for Science Advancement	1998
Invited Student Participant, Union Carbide Innovation Recognition Program	1995
ACS Graduate Fellowship, Division of Organic Chemistry	1995
Lee I. Smith Stainless Steel Beaker Award, University of Minnesota	1995
University of Minnesota Graduate School Dissertation Fellowship	1994
University of Minnesota Departmental Graduate Fellowship, Hercules	1993
University of Minnesota Departmental Graduate Fellowship, Air Products	1991
National Merit Scholar	1987-1991
University of Wisconsin-Eau Claire Chancellor's Scholarship	1987

Publications: H-index of WWU publications = 9; (* indicates undergraduate student, # indicates M.S. student)

31. Vyvyan, J. R.; #Engles, C. A.; *Bray, S. L.; *Wold, E. D.; *Porter, C. L.; *Konev, M. O. "Synthesis of trisubstituted *Z*-styrenes by Hiyama-type coupling of oxasilacycloalkenes: Application to the synthesis of a 1-benzoxocane," *Beilstein J. Org. Chem.* **2017**, *13*, 2122-2127.
30. #Shelton, P.; #Ligon, T. J.; #Dell, J. M.; *Yarbrough, L.; Vyvyan, J. R. "Synthesis of cananodine by intramolecular epoxide opening," *Tetrahedron Lett.* **2017**, *58*, 3478-3481. DOI: 10.1016/j.tetlet.2017.07.080. PMC5722248.
29. Vyvyan, J. R.; #Longworth (née Dimmitt), H. E.; *Nguyen, S. "Synthesis of (±)-centrolobine using a gold-catalyzed cycloetherification," *Synlett*, **2016,** 2221-2224. Featured in Organic Chemistry Highlights edited by Douglass F. Taber, January 8, 2018: http://www.organic-chemistry.org/Highlights/2018/08January.shtm
28. Pavia, D. L.; Lampman, G. M.; Kriz, G. S.; Vyvyan, J. R. *Introduction to Spectroscopy*, 5th edition; Cengage: Stamford, CT, 2015. ISBN-13: 978-1-285-46013-0
27. Vyvyan, J. R.; #Dimmitt, H. E.; #Griffith, J. K.; *Steffens, L. D.; #Swanson, R. A.; "Gold-catalyzed rearrangement of substituted allyl aryl ethers," *Tetrahedron Lett.* **2010**, *51*, 6666-6669.
26. Vyvyan, J. R.; #Dell, J. A.; #Ligon, T. J.; *Motanic, K. K.; *Wall, H. S.; "Suzuki-Miyaura cross-coupling of 3-pyridyl triflates with 1-alkenyl-2-pinacol boronates," *Synthesis* **2010**, 3637-3644. PMC3080250
25. Vyvyan, J. R.; *Brown, R. C.; *Woods, B. P.; "Alkylation of 2-substituted (6-methyl-2-pyridyl)methyllithium species with epoxides," *J. Org. Chem.* **2009**, *74*, 1374-1376. PMC2635110
24. Pavia, D. L.; Lampman, G. M.; Kriz, G. S.; Vyvyan, J. R. *Introduction to Spectroscopy*, 4th edition; Brooks/Cole: Belmont, CA, 2009. ISBN-13: 978-0-495-11478-9
23. Van Alstyne, K. L.; #Nelson, A. V.; Vyvyan, J. R.; Cancilla, D. A "Dopamine functions as an antiherbivore defense in the temperate green alga *Ulvaria obscura,*" *Oecologia* **2006**, *148*, 304-311.
22. Vyvyan, J. R.; *Oaksmith, J. M.; *Parks, B. W.; *Peterson, E. M.; "Total Synthesis of (±)-Heliannuol C and E via Aromatic Claisen Rearrangement," *Tetrahedron Lett.* **2005**, *46*, 2457-2460.

21. Person, E. C.; [#]Meyer, J. A.; Vyvyan, J. R.; "Structural Determination of the Principle Byproduct of the Lithium-Ammonia Reduction Method of Methamphetamine Manufacture," *J. Forensic Sci.* **2005**, *50*, 87-95.

20. Taylor, S. K.; *Arnold, C. R.; *Gerds, A. T.; *Ide, N. D.; *Law, K. M.; *Kling, D. L.; *Pridgeon, M. G.; *Simons, L. J.; Vyvyan, J. R.; *Yamaoka, J. S.; Liao, M.-K.; Goyne, T. E. "Lactone synthesis via biotransformations of γ-hydroxyamides," *Tetrahedron: Asymm.* **2004**, *15*, 3819-3821.

19. Heilmann, S. M.; Drtina, G. J.; Haddad, L. C.; Rassmussen, J. K.; Gaddam, B. N.; Liu, J. J.; Fitzsimmons, R. T.; Fansler, D. D.; Vyvyan, J. R.; Yang, Y. N.; Beauchamp, T. J. "Azlactone-Reactive Polymer Supports for Immobilizing Synthetically Useful Enzymes. Part I. Pig Liver Esterase on Dispersion Polymer Supports," *J. Mol. Catal. B: Enz.* **2004**, *30*, 33-42.

18. Vyvyan, J. R.; [#]Loitz, C.; [#]Looper, R. E.; *Mattingly, C. S.; *Peterson, E. A.; *Staben S. T. "Synthesis of Aromatic Bisabolene Natural Products via Palladium-Catalyzed Cross-Couplings of Organozinc Reagents," *J. Org. Chem.* **2004**, *69*, 2461-2468.

17. Vyvyan, J. R.; *Meyer, J. A.; *Meyer, K. D. "Conversion of Epoxides to 1,3-Dioxolanes Catalyzed by Tin (II) Chloride," *J. Org. Chem.* **2003**, *68*, 9144-9147.

16. Vyvyan, J. R.; Pavia, D. L.; Lampman, G. M.; Kriz, G. S. "Preparing Students for Research: Synthesis of Substituted Chalcones as a Comprehensive Guided-Inquiry Experience," *J. Chem. Educ*. **2002**, *79*, 1119-1121.

15. Vyvyan, J. R.; [#]Holst, C. L.; *Johnson, A. J.; *Schwenk, C. M. "Total Synthesis of Gibbilimbols A-D," *J. Org. Chem.* **2002**, *67*, 2263-2265.

14. Vyvyan, J. R.; "Allelochemicals as Leads for New Herbicides and Agrochemicals," *Tetrahedron* **2002**, *58*, 1631-1646.

13. Vyvyan, J. R.; [#]Rubens, C. A., Halfen, J. A. "Synthesis of the napalilactone and pathylactone A spirocyclic skeleton," *Tetrahedron Lett.* **2002**, *43*, 221-224.

12. Vyvyan, J. R.; *,[#]Looper, R. E. "Total Synthesis of (±)-Heliannuol D, an Allelochemical from *Helianthus annuus*," *Tetrahedron Lett.* **2000**, *41*, 1151-1154.

11. Vyvyan, J. R.; *Peterson, E. A.; *Stephan, M. L. "Expedient Total Synthesis of (±)-Caparratriene," *Tetrahedron Lett.* **1999**, *40*, 4947-4949.

10. Taylor, S. K.; *Chmiel, N. H.; *Mann, E. E.; Silver, M. E.; Vyvyan, J. R. "Spiro γ-lactones via Aluminum Enolate Spiroepoxide Openings," *Synthesis* **1998**, 1009-1014.

9. Goodwin, T. E.; *Cousins, D. M.; *Debenham, S. D.; *Green, J. L.; *Guyer, M. L.; *Jacobs, E. G.; Hoye, T. R.; Koltun, D. O.; Vyvyan, J. R. "Synthesis of Conformationally Mobile Bicyclic Tetrahydro-1,2-oxazines by Isomerization of Isoxazolidinylmethyl Tosylates," *J. Org. Chem.* **1998**, *63*, 4485-4488.

8. Taylor, S. K.; *DeYoung, D.; *Simons, L. J.; Vyvyan, J. R.; *Wood, N. K. "Efficient Preparation of γ-Hydroxynitriles via Nitrile Enolate-Epoxide Reactions: Scope and Diastereoselectivity," *Synth. Comm.* **1998**, *28*, 1691-1701.

7. Dunn, B. C.; Wijetunge, P.; Vyvyan, J. R.; Howard, T. A.; Grall, A. J.; Ochrymowycz, L. A.; Rorabacher, D. B.; "Electron-Transfer Kinetics and Thermodynamic Characterization of Copper(II/I) Complexes with Acyclic Tetrathiaethers in Aqueous Solution," *Inorg. Chem.* **1997**, *36*, 4484-4489.

6. Taylor, S. K.; *Chmiel, N. H.; *Simons, L. J.; Vyvyan, J. R. "Conversion of Hydroxy Nitriles to Lactones Using *Rhodococcus rhodochrous* Whole Cells," *J. Org. Chem.* **1996**, *61*, 9084-5.

5. Hoye, T. R.; Vyvyan, J. R. "Polycyclic Cyclopropanes from Reactions of Alkene-Containing Fischer Carbene Complexes and Alkynes: A Formal Synthesis of (±)-Carabrone." *J. Org. Chem.* **1995**, *60*, 4184-4195.

4. Aronne, L.; Dunn, B. C.; Vyvyan, J. R.; *Souvignier, C. W.; Mayer, M. J.; Howard, T. A.; Salhi, C. A.; Goldie, S. N.; Ochrymowycz, L. A.; Rorabacher, D. B.; "Effect of Ligand Constraints upon the Stabilities and Potentials of Macrocyclic Polythiaether Complexes. Copper(II) and Copper(I) Complexes with Cyclohexyl and Benzyl Derivatives of [14]aneS_4 in Water, 80% Methanol and Acetonitrile," *Inorg. Chem.* **1995**, *34*, 357-369.

3. Hoye, T. R.; Hanson, P. R.; Vyvyan, J. R. "A Practical Guide to First-Order Multiplet Analysis in ^{1}H NMR Spectroscopy," *J. Org. Chem.* **1994**, *59*, 4096-4103.

2. Hoye, T. R.; Chen, K.; Vyvyan, J. R. "Preparation of Fischer Carbene Complexes by Alkylation of Acylmetallates with Alkyl Iodides," *Organometallics* **1993**, *12*, 2806-9.

1. Desper, J. M.; Vyvyan, J. R.; Mayer, M. J.; Ochrymowycz, L. A.; Gellman, S. H. "Nickel(II) Chelation by Three Bicyclic Tetrathiaethers: Solution and Solid State Data," *Inorg. Chem.* **1993**, *32*, 381-2.

External Research Grants: (> $1.2 M since 1997)

American Chemical Society Petroleum Research Fund (PRF 49441-UR 1)
"Au(I)-Catalyzed Aromatic Claisen Rearrangements" 7/01/09–8/31/12; extension to 8/31/13 $65,000

National Institutes of Health (R15CA122084-01)
"Synthesis of (–)-cananodine, an alkaloid active against hepatocellular carcinoma"
4/01/07– 3/31/10; extension to 3/31/12 $204,473

National Science Foundation RUI (NSF-0616995)
"New Approaches to the Synthesis of 1-benzoxocanes"
7/01/06– 6/30/09; extension to 6/30/11 $264,000

Camille and Henry Dreyfus Foundation Henry Dreyfus Teacher Scholar Award
"Computational Investigation of Phenol Epoxide Cyclizations"
11/20/02 – 11/20/07 $60,000

Herman Frasch Foundation
"Synthesis and Evaluation of Novel Herbicides Based on Natural Product Templates"
7/01/02– 6/30/07 $200,000

National Science Foundation CAREER Award (NSF-0094378)
"Synthesis of Allelopathic Agents as Leads to New Agrochemicals"
3/01/01– 2/28/06 $391,750

Council on Undergraduate Research Summer Student Fellowship
"Synthesis of Medium Ring Ethers via Phenol Epoxide Cyclizations"
6/15/01– 9/15/01 $4,000

Research Corporation Cottrell College Science Award
"Synthesis of Allelochemicals: The Heliannuols and Related Compounds"
6/01/99–5/31/01 $38,125

American Chemical Society Petroleum Research Fund (Type G)
"Reagent Controlled Asymmetric Iodoetherification" 6/98–6/00 $20,000

Camille and Henry Dreyfus Foundation Faculty Start-Up Grants for Undergraduate Institutions
"Asymmetric Iodoetherification" 9/97–9/99 $12,500

Camille and Henry Dreyfus Foundation Scholar/Fellow Program for Undergraduate Institutions
Supplemental Award 9/97–9/99 $10,000

External Equipment / Instructional Grants:

National Science Foundation Major Research Instrumentation (MRI)
"MRI/RUI: Acquisition of a 500-MHz Nuclear Magnetic Resonance Spectrometer at Western Washington University" (NSF-0216604) 8/15/02–7/31/05 $454,101

Invited Presentations:

"Synthetic Studies on Guaipyridine Alkaloids," Hope College, November 10, 2017, Holland, MI.

"Synthetic Studies on Guaipyridine Alkaloids," Eastern Michigan University, November 6, 2017, Ypsilanti, MI.

"Au(I)-Catalyzed Reactions of Allyl Aryl Ethers," Pacific Lutheran University, November 26, 2012, Tacoma, WA.

"Au(I)-Catalyzed Reactions of Allyl Aryl Ethers," Macalester College, October 24, 2011, St. Paul, MN.

"Au(I)-Catalyzed Reactions of Allyl Aryl Ethers," University of Wisconsin-Eau Claire, October 21, 2011, Eau Claire, WI.

"Au(I)-Catalyzed Rearrangements of Allyl Aryl Ethers," University of Utah, September 25, 2008, Salt Lake City, UT.

"Synthesis and Evaluation of Heliannuols and Synthetic Analogues," University of Richmond, April 24, 2006, Richmond, VA.

"Synthesis of Allelopathic Natural Products: The Heliannuols," Colorado State University Proctor and Gamble Lectureship, November 8, 2004, Fort Collins, CO.

"Recent Progress in the Synthesis of the Heliannuols," National Science Foundation Workshop on Synthetic Organic Chemistry, June 10-13, 2004, Minary Center, Holderness, NH.

"Synthesis of Benzoxocanes via Regioselective 8-endo Phenol Epoxide Cyclizations," University of Oregon, January 30, 2004, Eugene, OR.

"Synthesis of Allelochemicals via Phenol Epoxide Cyclizations: The Heliannuols," Central Washington University, November 14, 2003, Ellensburg, WA.

"Synthesis of Benzoxocanes via Regioselective 8-*endo* Phenol Epoxide Cyclizations," Emory University, September 17, 2003, Atlanta, GA.

"Synthesis of Allelopathic Natural Products: The Heliannuols," Seattle Pacific University, November 29, 2001, Seattle, WA.

"Synthesis of Allelopathic Natural Products: The Heliannuols," Pacific Lutheran University, November 13, 2000, Tacoma, WA.

"Applications of the Fischer Carbene Polycyclic Cyclopropanation Reaction in Natural Product Synthesis," Grand Valley State University, February 2, 1996, Allendale, MI.

"Applications of the Fischer Carbene Polycyclic Cyclopropanation Reaction in Natural Product Synthesis," Union Carbide Innovation Recognition Program, May 18-19, 1995, Charleston, WV.

"Applications of the Fischer Carbene Polycyclic Cyclopropanation Reaction in Natural Product Synthesis," Macalester College, February 14, 1995, St. Paul, MN.

"A Fischer Carbene-Based Synthesis of (±)-Carabrone," University of Wisconsin-Eau Claire, December 4, 1993.

Contributed Presentations:

(***** indicates undergraduate student; [#] indicates M.S. student; presenter in **bold**)

Deshaye, M,; Vyvyan, J. R. "Synthetic studies on guaipyridine alkaloids: Rupestines L and M," 255th ACS National Meeting, New Orleans, LA, March 18-22, 2018. CHED 1449.

Starchman, E.; Enciso, C.; Vyvyan, J.R. "Gold-catalyzed reactions of epoxy esters," 255th ACS National Meeting, New Orleans, LA, March 18-22, 2018. CHED 1517.

Sabio, R.; Vyvyan, J. R. "Synthetic studies on canaodine: Setting the C8 stereocenter," 255th ACS National Meeting, New Orleans, LA, March 18-22, 2018. CHED 1463.

Vyvyan, J. R.; Engles, C. A.; Bray, S. L.; Wold, E. D.; Porter, C. L.; Konev, M. O. "Hiyama couplings of oxasilacycloalkenes: Synthesis of substituted *Z*-styrenes and application to natural product skeletons," 253rd ACS National Meeting, San Francisco, CA, United States, April 2-6, 2017. ORGN 632.

Grosslight, S.; Spargo, H.; Shelton, P.; Vyvyan, J. R. "Synthetic studies on guaipyridine alkaloids: Rupestines B-D and G," 253rd ACS National Meeting, San Francisco, CA, United States, April 2-6, 2017. ORGN 823.

Silva, T. I.; Vyvyan, J. R. "Gold-catalyzed cycloetherification of epoxides," 253rd ACS National Meeting, San Francisco, CA, United States, April 2-6, 2017. CHED 1363.

Woldehaimanot, B.; Shelton, P.; Vyvyan, J. R. "Synthetic studies on guaipyridine alkaloids: Intramolecular Heck Route," 249th ACS National Meeting, Denver, CO, United States, March 22-26, 2015. ORGN 539.

Dotson, J.; Lyski, R.; Vyvyan, J. R. "Gold-catalyzed synthesis of cyclic ethers and lactones," 249th ACS National Meeting, Denver, CO, United States, March 22-26, 2015. ORGN 384

Torres, M.; Vyvyan, J. R. "Opening disubstituted epoxides with picolyl anions," 247th ACS National Meeting, Dallas, TX, United States, March 16-20, 2014. ORGN 684

Shelton, P., Vyvyan, J. R. "Synthetic Studies on Guaipyridine Alkaloids," 43rd National Organic Sympsoium, Seattle, WA, June 23-27, 2013. *Thieme Chemistry SYNFACTS Poster Prize.*

Vyvyan, J. R. "Maintaining a balance: Managing successful research programs at PUIs," Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, YCC-3.

Smith,* K. B.; Dimmitt,# H. E.; Hanson,* C. C.; Koeppen,* N. C.; Rider, D. A.; Emory, S. R.; Vyvyan, J. R. "Role of nanoparticles in the Au-catalyzed rearrangement of allyl aryl ethers" Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, United States, March 25-29, 2012 ORGN-907.

Shelton,* P.; **Eivers,* T.**; **Konev,* M.**.; Vyvyan, J. R. "Studies directed toward the synthesis of the rupestines," Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, CHED-1129.

Nguyen,* S. K.; Dimmitt,# H. E.; Vyvyan, J. R.. "Studies on the synthesis of centrolobine," Abstracts of Papers, 243rd ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, CHED-1125.

J. R. Vyvyan, "Maintaining a balance: Managing successful research programs at PUIs," Younger Chemists Committee proceedings, 241st National ACS Meeting, March 27-31, 2011 Anaheim, CA. Oral Presentation YCC3.

Vyvyan, James R.; Dell (née Meyer),# Jennifer A.; Ligon,# Toby J. Construction of the cananodine bicyclic skeleton using an epoxide cyclization. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010. ORGN-88.

Vyvyan, James R.; Bennett,* Jennifer A.; Dimmitt,* Heidi E.; Griffith,# Jennifer K.; Steffens,* Laura D.; Swanson,# Rebecca A. Development of a gold(I)-catalyzed aromatic Claisen rearrangement. Abstracts of Papers, 64th Northwest Regional Meeting of the ACS, Tacoma, WA, United States, June 28 – July 1, 2009, Oral Presentation 198.

Vyvyan, James R.; Bray,* Scott L. Wold,* Erik D.; Engles,# Courtney A. 1-Benzoxocanes via Intramolecular Buchwald-Hartwig Etherification. Abstracts of Papers, 64th Northwest Regional Meeting of the ACS, Tacoma, WA, United States, June 28 – July 1, 2009, Oral Presentation 197.

Motanic,* Kelsey K.; Vyvyan, James R.; Ligon,# Toby J.; Wall,* Hayley S.; Suzuki-Miyaura Cross Couplings of Pyridyl 3-Triflates with Alkenyl Boronates. Abstracts of Papers, 64th Northwest Regional Meeting of the ACS, Tacoma, WA, United States, June 28 – July 1, 2009, Poster 159.

Ligon,# Toby J.; Vyvyan, James R.; Recent Progress Toward the Synthesis of Cananodine. Abstracts of Papers, 64th Northwest Regional Meeting of the ACS, Tacoma, WA, United States, June 28 – July 1, 2009, Poster 153.

Tallman,* Katie R.; Werner,# Erik W.; Vyvyan, James R.; Progress Toward the Synthesis of Heliannuol A Using 8-endo Epoxide Cyclizations. Abstracts of Papers, 64th Northwest Regional Meeting of the ACS, Tacoma, WA, United States, June 28 – July 1, 2009, Poster 154.

Vyvyan, James R.; Ligon,# Toby J.; Recent Progress Toward the Synthesis of Cananodine. 41st National Organic Chemistry Symposium, Boulder, CO, June 7 - 11, 2009. poster

Vyvyan, James R.; **Steffens,* Laura D.;** Swanson,# Rebecca A.; Johnson,# Jennifer K. Gold(I)-catalyzed aromatic Claisen rearrangement: Effects of allyl ether structure on product distribution. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008, ORGN-158.

Vyvyan, James R.; Johnson,# Jennifer K.; Steffens,* Laura D.; Swanson,# Rebecca A. Development of a gold(I)-catalyzed aromatic Claisen rearrangement. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008, ORGN-217.

Vyvyan, James R.; **Wall,* Hayley S.**; **Ligon,# Toby J.;** Meyer, # Jennifer A. Suzuki-type cross-couplings of substituted 3-pyridyl substrates. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), ORGN-353.

Vyvyan, James R.; **Breakey,* Kyle S**.; **McMahon,* Travis C**.; Werner,# Erik W. Use of conformational constraint to promote 8-endo phenol epoxide cyclizations. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), ORGN-354

Vyvyan, James R.; **Bray, Scott L.*** Strategies for the synthesis of 1-benzoxocanes via Caryl-O bond formation. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), ORGN-355.

Vyvyan, James R.; **Brown,* Rebecca C**.; **Woods,* Brian P.** Reaction of substituted 2-picolyllithiums with epoxides. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), ORGN-356.

Vyvyan, James R.; Bray,* Scott L.; Breakey,* Kyle S.; McMahon,* Travis C.; Werner,# Erik W. New strategies for the synthesis of 1-benzoxocanes. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008 (2008), ORGN-472.

Vyvyan, James R.; **Swanson,# Rebecca A.**; Steffens, Laura D.; Johnson, Jennifer K. Aryl substituent effects on gold(I)-catalyzed aromatic Claisen rearrangements. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008, ORGN-562.

J. R. Vyvyan, "Achieving a balance: Establishing and maintaining successful research programs at PUIs," Division of Chemical Education proceedings, 231st National ACS Meeting, March 26-30, 2006 Atlanta, GA. Oral Presentation CHED1243.

Jennifer A Meyer,# and J. R. Vyvyan, "Studies toward the enantioselective total synthesis of cananodine," 39th National Organic Symposium, June 12-16, 2005, University of Utah, Salt Lake City, UT. Poster Presentation C26.

Amanda L. Henry,# J. R. Vyvyan, and Steven H. Dillman, "Can β-hydroxyolefin cleavage be catalyzed by Lewis acids?," 39th National Organic Symposium, June 12-16, 2005, University of Utah, Salt Lake City, UT. Poster Presentation B15.

James R. Coats,# J. R. Vyvyan, Chadwick T. Merkel,* and Korin D. Meyer,* "Synthesis of heliannuol analogues," 39th National Organic Symposium, June 12-16, 2005, University of Utah, Salt Lake City, UT. Poster Presentation A54.

Celeste Loitz,# Steven T. Staben**,*** and J. R. Vyvyan "Synthesis of benzoxocane containing natural products: heliannuol A, K, and helianane," Division of Organic Chemistry proceedings, 227th National ACS Meeting, March 28 – April 1, 2004 Anaheim, CA. Poster Presentation ORGN127.

J. R. Vyvyan, Ryan E. Looper,# and Steven T. Staben* "Synthesis of Benzoxocanes via Regioselective 8-*endo* Phenol Epoxide Cyclizations," Division of Organic Chemistry proceedings, 225th National ACS Meeting, March 23-27, 2003 New Orleans, LA. Oral Presentation ORGN659.

J. R. Vyvyan, "Striking a balance: The Dreyfus Scholar-Fellow Program as preparation for a career at a PUI," Division of Chemical Education proceedings, 225th National ACS Meeting, March 23-27, 2003 New Orleans, LA. Oral Presentation CHED1241.

Korin D. Meyer,* Jennifer A. Meyer,* and J. R. Vyvyan "Conversion of epoxides to 1,3-dioxolanes catalyzed by tin(II) chloride," Division of Organic Chemistry proceedings, 225th National ACS Meeting, March 23-27, 2003 New Orleans, LA. Poster Presentation ORGN371.

Jennifer A. Drew,* Jennifer M. Oaksmith,* **Elaine M. Peterson**,* Bevin W. Parks,* and J. R. Vyvyan, "Synthesis of heliannuol C and E via aromatic Claisen rearrangement," Division of Organic Chemistry proceedings, 225th National ACS Meeting, March 23-27, 2003 New Orleans, LA. Poster Presentation ORGN417.

J. R. Vyvyan, Jennifer M. Oaksmith* and Bevin W. Parks* "Recent progress in the synthesis of heliannuols C and E," Division of Organic Chemistry proceedings, 223rd National ACS Meeting, April 7-11, 2002, Orlando, FL. Oral Presentation ORGN435.

J. R. Vyvyan, Donald L. Pavia, Gary M. Lampman, and George S. Kriz "Preparing students for research: Synthesis of substituted chalcones as a comprehensive guided-inquiry experience," Division of Chemical Education proceedings, 223rd National ACS Meeting, April 7-11, 2002, Orlando, FL. Oral Presentation CHED1108.

Steven T. Staben* and J. R. Vyvyan "Acid catalyzed 8-endo phenol epoxide cyclization," Division of Organic Chemistry proceedings, 223rd National ACS Meeting, April 7-11, 2002, Orlando, FL. Poster Presentation ORGN71.

Trisha A. Duffey* and J. R. Vyvyan "Synthesis of medium ring benzofused ethers via phenol epoxide cyclizations," Division of Organic Chemistry proceedings, 223rd National ACS Meeting, April 7-11, 2002, Orlando, FL. Poster Presentation ORGN81.

Christian L. Holst,# Allison J. Johnson,* Cheryl M. Schwenk,* J. R. Vyvyan "Total Synthesis of Gibbilimbols A-D," Northwest Regional Meeting of the American Chemical Society, June 14-17, 2001, Seattle University, Seattle, WA. Poster Presentation.

Courtney A. Rubens,# J. R. Vyvyan, "Synthesis of the Pathylactone A / Napalilactone Skeleton," Northwest Regional Meeting of the American Chemical Society, June 14-17, 2001, Seattle University, Seattle, WA. Poster Presentation.

Bevin W. Parks,* J. R. Vyvyan, Jennifer M. Oaksmith* "Total Synthesis of Heliannuols C and E," 37th National Organic Symposium, June 10-14, 2001, Montana State University, Bozeman, MT. Poster Presentation 168.

Christian L. Holst,# J. R. Vyvyan, Allison J. Johnson,* Cheryl M. Schwenk* "Total Synthesis of Gibbilimbols A-D," 37th National Organic Symposium, June 10-14, 2001, Montana State University, Bozeman, MT. Poster Presentation 97.

Courtney A. Rubens,# J. R. Vyvyan, "Synthesis of the Pathylactone A / Napalilactone Skeleton," 37th National Organic Symposium, June 10-14, 2001, Montana State University, Bozeman, MT. Poster Presentation 182.

Trisha A. Duffey,* **Steve T. Staben,*** J. R. Vyvyan, "Studies on the Synthesis of Medium Ring Ethers via Phenol Epoxide Cyclizations," ACS Puget Sound Section Undergraduate Research Symposium, May 5, 2001, The Evergreen State College, Olympia, WA. Poster Presentation.

Bevin W. Parks,* J. R. Vyvyan, Jennifer M. Oaksmith* "Studies Toward the Total Synthesis of Heliannuols C and E," ACS Puget Sound Section Undergraduate Research Symposium, May 5, 2001, The Evergreen State College, Olympia, WA. ***Named Outstanding Poster***.

Allison J. Johnson,* Cheryl M. Schwenk,* J. R. Vyvyan, "Studies Toward the Synthesis of the Gibbilimbols" ACS Puget Sound Section Undergraduate Research Symposium, Western Washington University, May 6, 2000, Bellingham, WA. Oral presentation.

Jennifer M. Oaksmith,* J. R. Vyvyan, "Studies Directed Toward the Synthesis of Heliannuols C and E" ACS Puget Sound Section Undergraduate Research Symposium, Western Washington University, May 6, 2000, Bellingham, WA. Oral presentation.

J. R. Vyvyan, and Ryan E. Looper# "Total Synthesis of (±)-Heliannuol D, an Allelochemical from *Helianthus annuus*," Division of Organic Chemistry proceedings, ORGN 849, 219th National ACS Meeting, March 26-30 2000, San Francisco, CA. Oral Presentation.

Ryan E. Looper,# Cheryl S. Ingram,* J. R. Vyvyan, "Synthetic Studies on Allelopathic Natural Products: The Heliannuols," 36th National Organic Symposium, June 13-17, 1999, Madison, WI. Poster Presentation 272.

Emily A. Peterson,* J. R. Vyvyan, "Total Synthesis of the Anti-Leukemia Agent Caparratriene and Related Compounds," 36th National Organic Symposium, June 13-17, 1999, Madison, WI. Poster Presentation 273.

Ryan E. Looper,[#] J. R. Vyvyan, "Synthetic Studies on Allelopathic Natural Products: The Heliannuols," Sigma Xi Research Symposium, Western Washington University, May 19, 1999, Bellingham, WA. ***Named Outstanding Graduate Student Poster***.

Brandon S. Stillwell,[#] J. R. Vyvyan, "Reagent Controlled Asymmetric Iodoetherification," Sigma Xi Research Symposium, Western Washington University, May 19, 1999, Bellingham, WA. Poster presentation.

Emily A. Peterson,* J. R. Vyvyan, "Total Synthesis of the Anti-Leukemia Agent Caparratriene and Related Compounds," Sigma Xi Research Symposium, Western Washington University, May 19, 1999, Bellingham, WA. ***Named Outstanding Undergraduate Poster***.

Emily A. Peterson,* J. R. Vyvyan, "An Expedient Total Synthesis of (±)-Caparratriene" ACS Puget Sound Section Undergraduate Research Symposium, Central Washington University, April 24, 1999, Ellensburg, WA. ***Named Outstanding Presentation***.

S. K. Taylor, S. A. Meyer,* L. J. Simons,* and **J. R. Vyvyan**, "Microbial Nitrile Hydrolysis in Synthesis: Pheromone of the Carpenter Bee," 35th National Organic Symposium, June 22-26, 1997, San Antonio, TX. Poster Presentation 271.

S. K. Taylor, L. J. Simons,* J. R. Vyvyan, and N. K. Wood,* "Conversion of Hydroxynitriles to Lactones by Microbial Hydrolysis," Division of Organic Chemistry proceedings, 213th National ACS Meeting, April 1997, San Francisco, CA. Oral Presentation.

T. R. Hoye and J. R. Vyvyan "Ene + Yne + (Group VI Metal) Carbene Cyclization Reactions as Routes to Polycyclic Sesquiterpenes," Pre-OMCOS Symposium, August 1995, University of California-Davis. Invited Lecture.

T. R. Hoye and **J. R. Vyvyan** "Applications of the Fischer Carbene Polycyclic Cyclopropanation Reaction in Natural Product Synthesis," 34th National Organic Symposium, June 11-15, 1995, Williamsburg, VA. Poster Presentation 205.

T. R. Hoye, D. M. Koltun,* and **J. R. Vyvyan** "A Fischer Carbene-Based Synthesis of (±)-Carabrone," Division of Organic Chemistry proceedings, 209th National ACS Meeting, April 1995, Anaheim, CA. Poster Presentation.

T. R. Hoye, P. R. Hanson, and **J. R. Vyvyan** "A Practical Guide to First-Order Multiplet Analysis in ^{1}H NMR Spectroscopy," Division of Organic Chemistry proceedings, 206th National ACS Meeting, August 1993, Chicago, IL. Poster Presentation.

J. R. Vyvyan and L. A. Ochrymowycz "Synthesis of Preconformed Tetrathiacrown Ethers," Thirteenth Annual Waldo Semon Chemistry Symposium, April 1991, Kent State University, Kent, OH. ***Finalist in Undergraduate Research Competition.***

J. R. Vyvyan, M. J. Mayer, and L. A. Ochrymowycz "Synthesis of Preconformed Tetrathiacrown Ethers," First Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics, November 1990, Argonne National Laboratory, Argonne, IL.

J. R. Vyvyan, M. J. Mayer, and L. A. Ochrymowycz "Synthesis of Endodentate Tetrathiacrown Ethers," 41st Annual Undergraduate Research Symposium, Chicago Section of the ACS, Great Lakes Regional ACS Meeting, May 1990, Northern Illinois University, DeKalb, IL. ***Named Outstanding Undergraduate Paper.***

Teaching

Course Number	Title	Terms Taught
Chem 351	Organic Chemistry I	16 times since F97, most recent F16
Chem 352	Organic Chemistry II	14 times since W98, most recent W17
Chem 353	Organic Chemistry III	8 times since S98, most recent S16
Chem 354	Organic Chemistry Laboratory I	22 times since W98, most recent W19
Chem 355	Organic Chemistry Laboratory II	9 times since S98, most recent S19
Chem 425B/553	Organic Reactions	5 times since S99, most recent S17
Chem 425C/556	Medicinal Chemistry	3 times since S00, most recent S04
Chem 454/554	Organic Spectroscopy	11 times since F98, most recent F18
Chem 455/555	Advanced NMR Techniques	3 times since W02, most recent W08

Chem 595	Seminar	3 times since S98, most recent F00

Memberships in Professional Societies:

American Chemical Society
- Division of Organic Chemistry
- Division of Chemical Education
- Division of Agrochemicals

Council on Undergraduate Research

Service

Department of Chemistry

Departmental grant proposals:

Principal Investigator: National Science Foundation-Major Research Instrumentation: "MRI/RUI: Acquisition of a 500-MHz Nuclear Magnetic Resonance Spectrometer at Western Washington University" (NSF-0216604) 8/15/02–7/31/05 $454,101

Primary author: WWU Student Technology Fee program: "Upgrade NMR Facility in Chemistry," 2001, $116,000

Contributing author/editor: Research Corporation/Murdock Charitable Trust Department Development Grant, 2000-2006, $746,000

Department Space Committee, 2007-2009

Department Graduate Committee, 1997-2005, 2007-2009, 2018-present; Chair 2001-2005, 2007-2009, 2011-2012, 2018-present.

Department Honors Committee, 2004-2005

Department Scholarship Committee 2010-present

Organic Chemistry Faculty Search Committee, Chair, 2006, 2007, 2008, 2011

Organic Chemistry Faculty Search Committee, 2005

Biochemistry Faculty Search Committee, Chair, 2004

Department Lab Operations and Safety Committee, 1997-1999, 2009-2011

Department Steering Committee, 2001-2003

Faculty Mentor for Assistant Professor Margaret Scheuermann

Faculty mentor for Assistant Professor Amanda Murphy

Faculty mentor for Assistant Professor Gregory W. O'Neil

Faculty mentor for Assistant Professor Timothy B. Clark

Faculty mentor for Assistant Professor Christopher J. A. Daley

Departmental Scholars Day Coordinator for Keynote Speaker, 2001, 2002, 2017

ACS Student Affiliate co-Advisor, 1998-2001

Commencement Representative

WWU M.S. Thesis Committees Chaired:

Ryan E. Looper, *Studies Directed Toward the Synthesis of Allelopathic Natural Products: the Heliannuols, Glandulone A, and Related Aromatic Bisabolene Natural Products*, August 1999.

Brandon Stillwell, *Reagent Controlled Asymmetric Iodoetherification*, May 2000.

Courtney Rubens, *Studies Toward the Synthesis of Pathylactone A and Napalilactone*, August 2001.

Christian Holst, *Studies Toward the Synthesis of Lanneaquinol, the Gibbilimbols and Related Alkylated Hydroquinones*, August 2001.

Celeste Loitz, *Studies Toward the Synthesis of Benzoxocane-containing Natural Products: Heliannuol A, K, and Helianane*, June 2004.

Amanda Henry, *Small Molecule Models of Di- and Tri-Block Co-polymer Coupling Sites*, December 2005.

Jennifer A. Meyer, *Studies on the Total Synthesis of Cananodine*, March 2006.

James R. Coats, *Synthesis and Evaluation of Heliannuol C analogues*, June 2007.

Erik W. Werner, *Synthesis of Benzoxocanes via Conformationally Constrained Phenol-Epoxide Cyclizations*, July 2007.

Jennifer K. Johnson, *Enantioselective Aromatic Claisen Rearrangment Catalyzed by Nonracemic BINOL Complexes*, July 2007.

Rebecca A. Swanson, *Applications of Noble Metal Complexes in Catalysis*, June 2008.

Toby J. Ligon, *Progress Toward the Total Synthesis of Cananodine via Epoxide Cyclization*, August, 2009.

Courtney A. Engles, *Preparation of Z-substituted Styrenes Using Hiyama and Suzuki Cross-Couplings: A Synthesis of Glandulone B,* June 2011.

Heidi E. Dimmitt, *Gold(I)-Catalyzed Rearrangements of Allyl Aryl Ethers: Mechanistic and Synthetic Studies,* June 2011.

Patrick Shelton, *Synthetic Studies on Guaipyridine Alkaloids*, March 2014.

Ryan Lyski, *Gold(III)-Catalyzed Cyclizations to Form Saturated Oxygen Heterocycles*, June, 2015.

Evangeline Starchman, *Studies Toward the Synthesis of Rupestines B, C, L, and M*, anticipated June 2020

Other M.S. Thesis Committee Membership:

Michael Leitch, anticipated 2020

Cooper Vincent, 2019

Gabe Bourne, 2019

Nick Horvath, anticipated 2019

Trevor Stockdale, 2018

Elizabeth Cummins, 2018

Orion Banks, 2017 (Chemistry)

John Williams II, June 2016 (Chemistry)

Brianne King, June 2014 (Chemistry)

Melissa McIntosh, June 2010 (Chemistry)

Rachel Zack, 2008 (Biology)

Sandra Ryan, Fall 2005 (Huxley College of the Environment)

Roxanne Hulet Kelly, June 2001 (Chemistry)

Western Washington University

College of Sciences and Technology, Dean Search Committee, 2011

College of Sciences and Engineering, Personnel Committee, 2010-2012, 2018-present; Chair 2011-12

Research Advisory Council (RAC), 2008-2011

Patent & Copyright Committee (PCC), 2009-present

Selection Committee, Peter J. Elich Excellence in Teaching Award, 2009, 2017

College of Sciences and Technology, Special Merit Review Committee, 2009

AMSEC polymers/composites faculty Search Committee, 2008-9

Fund for the Enhancement of Graduate Research Committee, 2000-2005; Chair, 2002-2005

College of Sciences and Technology, Professional Performance and Development Review Committee, 2004

College of Sciences and Technology, Founding Dean Search Committee, 2003

College of Arts and Sciences Professional Performance and Development Review Committee, 2003

Faculty Senate, 1999-2001

Professional

Grant Proposal Reviewer:

National Institutes of Health
National Science Foundation
Research Corporation
American Chemical Society Petroleum Research Fund (ACS-PRF)
M. J. Murdock Charitable Trust
Jeffress Memorial Trust

Manuscript Reviewer:

Journal of the American Chemical Society
Journal of Organic Chemistry
Organic Letters
Journal of Chemical Education
ACS Sustainable Chemistry & Engineering
Royal Society Open Science
Tetrahedron
Tetrahedron Letters
Tetrahedron: Asymmetry
Letters in Organic Chemistry
Beilstein Journal of Organic Chemistry
Molecules
Northwest Science
Current Bioactive Compounds

Book Reviewer:

Oxford University Press
W. H. Freeman and Company

ACS Petroleum Research Fund Non-doctoral grant review panel, June 2009

National Institutes of Health (Synthetic and Biological Chemistry B Study Section) June 2008

Award Chair, Linus Pauling Medal Award, 2008

National Science Foundation MRI program (CHE) panelist, Arlington, VA, 2007

Reviewer, Fourth World Congress on Allelopathy, International Allelopathy Society, 2005.

Invited Panelist, National Science Foundation Workshop on the Postdoctorate, Arlington, VA, May 11-13, 2003

National Science Foundation CAREER program (SYO) panelist, Arlington, VA, 2003 and 2004

National Science Foundation Graduate Research Fellowship Program panelist, Arlington, VA, 2005 and 2006

Symposium Chair, Linus Pauling Medal Symposium, Bellingham, WA, October 21, 2000